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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,896	04/06/2006	Shuji Ikegami	4633-0166PUS1	3390

2292 7590 11/28/2008

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EXAMINER	
COX, ALEXIS K	

ART UNIT	PAPER NUMBER
3744	

NOTIFICATION DATE	DELIVERY MODE
11/28/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/574,896	IKEGAMI ET AL.	
	Examiner	Art Unit	
	ALEXIS K. COX	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/10/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/25/2007, 4/26/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 2, 3, 11, and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11/13/2008.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 4-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhodes (US Patent No. 4,700,550).

Regarding claim 1, Rhodes discloses an air conditioning apparatus which is provided with a heating medium circuit (see figures 7-9) for the flow of heating medium which includes in the heating medium circuit a plurality of heat exchangers (12, 14, 82, 84; see column 9 lines 53-56) for effecting heat exchange between a heating medium and an air stream (see column 10 lines 3-5), wherein at least one heat exchanger is made up of an adsorption heat exchanger with an adsorbent supported on a surface thereof (see column 10 lines 8-10).

Regarding claim 4, Rhodes discloses the heating medium circuit to include at least two air heat exchangers which mainly perform air sensible heat processing (82,

84, see column 16 lines 23-27) and at least two adsorption heat exchangers which mainly perform air latent heat processing (14, 16, see column 15 lines 30-33).

Regarding claim 5, Rhodes discloses the heating medium circuit to be made up of a refrigerant circuit through which a refrigerant is circulated to thereby perform a vapor compression refrigeration cycle (see column 2 lines 32-38).

Regarding claims 6 and 7, the heating medium circuit is made up of a cold and hot water circuit for the flow of cold and hot water (see column 25 lines 44-51).

Regarding claim 8, Rhodes discloses the air conditioning apparatus to have a control unit (87, 17 lines 34-38) which switches the flow of heating medium in the heating medium circuit and the distribution of air to thereby perform (a) a moisture absorbing operation in which, while cooling an adsorbent in an adsorption heat exchanger, moisture in an airstream flowing through the adsorption heat exchanger is adsorbed by the adsorbent and (b) a moisture releasing operation in which, while heating an adsorbent in an adsorption heat exchanger, moisture is released to an airstream flowing through the adsorption heat exchanger (see column 17 lines 38-49).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhodes (US Patent No. 4,700,550) in view of Kirby (US Patent No. 4,703,886).

Regarding claims 9 and 10, Rhodes discloses the automatic control of the system by a humidistat (see column 17 lines 34-38). It is noted that Rhodes does not explicitly disclose a control unit provided with a switching interval setting part for setting, depending on the latent heat load, a time interval at which switching between the moisture absorbing operation and the moisture releasing operation is accomplished, or for the switching interval setting part to be configured such that as the latent heat load increases the time interval at which switching between the moisture absorbing operation and the moisture releasing operation is accomplished is set to a lower setting value. However, Kirby explicitly discloses a programmable humidistat (see column 1 lines 59-61) using the same processor as and possibly in combination with a programmable thermostat (see column 2 lines 39-43 and column 1 lines 53-55). As the processor used by Kirby performs control according to timed predictions of temperature (see column 1 lines 22-25), it is capable of performing the control of the system of Rhodes by setting a time interval at which switching between the moisture absorbing operation and moisture

releasing operation is accomplished, and further of decreasing the time interval at which switching between the moisture absorbing operation and the moisture releasing operation are accomplished as the latent heat load increases, as the saturation point of the adsorbent material will be reached faster when there is more humidity being pulled out of the air. Additionally, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the controller of Kirby in the system of Rhodes, as Rhodes fails to specify a specific controller and the controller of Kirby is designed for used in a system such as that of Rhodes.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Crawford (US Patent No. 2,057,938) discloses a regenerative air conditioning system using adsorption. Lednum (US Patent No. 2,136,513) discloses an adsorptive air conditioning system. Maeda (US Patent No. 6,370,900) discloses a dehumidifying air-conditioning system. Ebara (US Patent No. 6,675,601) discloses an air conditioner with separate treatment of sensible and latent loads. Miller (US Patent No. 1,729,081) discloses an adsorptive refrigeration system. Conlon (US Patent No. 5,438,843) discloses a liquid purification by batch crystallization means including adsorption. Seo et al (US patent No. 6,668,572) discloses an air conditioner using adsorptive heat exchange with hot and cold water production. Mathiprakasam (US Patent No. 4,430,864) discloses a hybrid vapor compression and desiccant air conditioning system. Fischer (US Patent Application No. 2004/0000152) discloses a desiccant-based dehumidification system and method for use in combination with a

conventional air conditioning system. Dofour et al (US Patent No. 3,774,374) discloses an environmental control unit which treats latent and sensible heat separately. And Bennett (US Patent No. 4,165,952) discloses a heat energized vapor adsorbent pump.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXIS K. COX whose telephone number is (571)270-5530. The examiner can normally be reached on Monday through Thursday 8:00a.m. to 5:30p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on 571-272-4834 or 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AKC/

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744